

# Architecture between Function and Expression

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## Abstract

Architects try to evolve graceful graphic patterns with little concern for the utilizations of the different parts of large buildings and some students scarcely bear in mind the purpose of the edifice. Physical function does not determine form and no such determination explains why a visible kinship should result between function and expression. The meaning of beauty emerges only if we understand beauty as a way of perfecting expression. Function then consists in abstract principles not in shapes. Future generations will consider the relationship of a building to its environment as more important than the way it expresses its function when considered in isolation.

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## Introduction

A building relies on the entirety of its shapes to serve the human mind and the very desire to survive is a mental demand developed in the course of evolution to ensure the survival of the species. The traditional criterion for functionality refers to the elements needed to uphold the building's physical structure. In our century, the stripping of architectural form to the bare geometry of its bones is clearly suggested. Ornament or decoration did not stand for gratuitous prettification, but, on the contrary, referred to necessary attributes of an object or person, and what is needed for effective communication, and for proper order. Frank Lloyd Wright defined ornament as the development of the building as a whole. Meanwhile, when a building takes off from a generic plan of overall shape and function, and leaves the execution of the imagination to the mason, then ornament refers to something that could be done without.

## Relating Function to Form

When an architect sees that function should be limited to what satisfies bodily need, he is narrowing the meaning of the term to accord with his style. What he means is that all he wants his building to do is to protect its inhabitants from the elements. Such a limitation attempts to slice a fragment from the indivisible totality of human needs. Function relies on the dynamic of visual form. Dynamics has generic qualities, such as straightness or flexibility, expansion or contraction, openness or closed-ness. Perceptual dynamics serves as the carrier of expression. The dynamic quality comes along with the percepts of objects and events that possess in themselves a way of behaving. When a building is devoid of windows it conveys a tightness of mind.

Function consists in abstract principles not in shapes. The principle designates a range of shapes as suiting the purpose, but it declares no preference for any particular embodiment. In most cases the range of shapes serving a particular function is defined not only intellectually, but

also perceptually. Perception too is not primarily concerned with particular shapes but with kinds of shapes. The demand for harmony and good proportion does not tell us what kinds of form are to be harmonized or proportioned, nor does insistence on neat workmanships. Physical function does not determine form and no such determination explains why a visible kinship should result between function and expression. The meaning of beauty emerges only if we understand beauty as a way of perfecting expression.

The discovery of geometric regularity in an object does not explain the positive qualities experienced in the concomitant perceptual relations. The golden section neither proves that the corresponding spatial ratios are agreeable to the human eye, nor explain why this should be. There is no point in evaluating the harmony of pleasant relations between forms in themselves when these forms are meant to embody a functional theme. The particular dynamics of each shape and each relation between shapes is influenced by that function. To combine different functions in a common design is a special art. It requires that these various functions be kept visually present in spite of their fusion. When Frank Lloyd Wright in his Guggenheim Museum in New York city combined the horizontality of floor spaces with the gradual transition from one floor to the next, the resulting spiral kept both functions in sight and demonstrated their union. Function is relatable also to fundamental aspects of human social behavior.

## Sincerity

A building of high artistic calibre measured solely in visual terms is architecture. But if the artistic merit of a building depends mainly on literary romantic allusions, or is due to the arbitrary sculptural quality of the forms, it may be reasonably argued that such a building is not architecture at all, but simply whimsically conceived constructions disguised in the borrowed aesthetic trappings of another art. During the past century at least three main sources of inspiration for architectural form have been identified: firstly, the authority of the traditional architecture of the past; secondly, the desire to escape from this authority by means of functional analogies; and thirdly, a reliance on the selection of structural components justified by reason, which resulted in Eclecticism and Rationalism. But none of these three philosophies provided any real source of inspiration for envisaging novel forms, so that those who considered novelty to be the essence of a new architecture were often tempted to turn their thoughts towards the other arts, painting or sculpture, with a hypersensitivity to the importance of sincerity.

In modern architecture, the relationship between sincerity and brutality is more obvious, since sincerity often conceals a desire to provoke. The search for sincerity has also contributed to the modern distrust of style for in the classical age, when art was taken to imply the conscious stimulation of an emotion of beauty, it also indicated the deliberate use of devices calculated to obtain it, whereas after the Romantic revolution, style was soon regarded as an artificial device inimical to sincere expression. Thus sincerity in architecture has meant starting from scratch. This is meant rejecting the acquired experience of our ancestors, and thus paradoxically relates to the realm of the history of ideas.

Future generations will consider the relationship of a building to its environment as more important than the way it expresses its function when considered in isolation. Before 1919, urban building was almost always as part of the street. Thus urban architectural form was thought of in terms of enclosure of space which might vary in shape from a square to a passageway, affected by the remodeling of any of its sections or by the completion of gaps which will be filled. Problems of planning, building, and hence the expression of their function, are bound up with problems of contiguity and isolation in urban design. Though it may fairly be asserted that the idea of expressing the purpose of a building becomes very much easier to fulfill when a building can be seen from all sides, and is not merely visible as a component element of a city street.

### The composition of the floor plan

Planning has an important formative influence on visible architectural character. The first principle of design in building must be utility as the fitness of things for answering to their ends. K. C. Loudon asserted that every building should appear to be what it is, and every part of a building ought to indicate externally its particular use. However, architects try to evolve graceful graphic patterns with little concern for the utilizations of the different parts of large buildings and some students scarcely bear in mind the purpose of the edifice. What is sought above all, when developing a plan, is a certain disposition of which is agreeable at the first glance rather than with a view to the function they are supposed to perform. Whereby, the main challenge to the architect's skill consisted in increasing the most pleasing volumes, the most efficient circulation and the most spacious courts out of the limited space allotted. Le Corbusier's Visual Arts Centre at Harvard University is barely distinguishable from his cotton manufacturer's headquarters in Punjab. It seems that the essential quality of all modern buildings is constituted by the distinctive functions they serve. New planning problems are capable of creating the new architecture of the modern age which is concerned with the importance of new planning needs.

The great virtue of composition in planning lay in the sequence of operations by which the internal spaces in a plan can be functionally related to one another by the designer and then relating them to constitute an organic and pleasing whole. Curiously enough the term composition was disliked by romantic theorists such as Goethe and Ruskin, and by romantic architects such as Frank Lloyd Wright, despite the fact that they might have been expected to favor any method guaranteed to produce picturesque effects. Ruskin specially objected the word composition in his book, *The Stones of Venice*, saying that the word was merely in order to express a scientific discipline and inventive arrangement instead of a natural and accidental one. Wright, in his essay entitled "The Cause of Architecture" also objected to the word, asserting that "we may no longer speak of composition, and claiming that a work of architecture should be regarded as a plastic thing modelled like a fluid, and not as something superimposed, aggregated or composed." It is probable however, that such attacks on the notion of composition were not based on very profound motives, but were simply devious ways of combating vocabulary of the Ecole des Beaux Arts. The architect's task is thus conceived as being simply a matter of determining the proper shape and allocation of these spaces with respect to their intercommunication and appearance.

Since domestic architecture resulted from social habits, the way to modify the effect is to begin by modifying the cause. It may be doubted to what extent architects are justified in initiating change in ways of living in domestic architecture. There is no doubt that various types of human environments have profited from architects' initiative in this matter. Once a perfect planning solution has been found, there is good reason to repeat this disposition with minor variations and improvement in every situation where it is required. It is impossible for a building to express its functions because the destination of modern buildings is more numerous than the distinguishable varieties of expression. However, a fundamental relationship must exist between a functional plan and its architectural expression which was one of the crucial problems of the modern age.

### Pictorial Criticism

Flexibility is a type of Functionalism. Museums and offices need to be adaptable in order to fulfill their functions properly in a way that other types of buildings do not. Even buildings which might seem to imply a precise compositional form, such as theatres, are occasionally designed to be flexible, as for example Walter Gropius' Total Theatre which was designed to be adaptable to various dramatic relationships between the actors and the audience. The stage had been reached when it is possible to take most of what modern architecture stood for granted, in that it was no longer necessary to explain the functional basis on which the modern architect worked. Thus as maturity developed, it became essential to restore the practice of what is called pictorial criticism, that is to say, of appraisals concerned with the appearance of buildings. In understanding this function, this is not a retreat from the principles which gave modern architecture its validity. On the contrary, these principles were now so well founded that it was no longer the business of an onlooker to enquire in each case whether they had been adhered to or not. The practical study which gave the appearance of architecture its meaning would still have to be born in mind, otherwise the public would find itself back in the period when the planning and construction of buildings was one thing, and the architecture of their facades another. But judging buildings is largely according to their appeal to the eye, since for the man in the street, this is the only approach open to him.

The type and quality of criticism varies according to the Age, and it is by studying the criticism of the past century that we are able to assess the hesitations which characterized the last century and have the growing sense of confidence which gives the architecture of the present day so much in common. The great achievements of the pioneers of the Modern Movement whose ideal was pure reason could be equated with pure form. During the 20<sup>th</sup> century, the technique of using abstract pictorial and sculptural devices as a means of creating novel architecture forms was exploited by the pioneers of the modern movement which resulted in the technique becoming a new trend which aims at reviewing all the changing ideals which have occurred in architecture during the last century. Its influence is so complex that it demands more than a cursory examination of the basis of much of the speculation by amateur reformers who were fundamentally Renaissance ideals.

## Non-representational Architecture

Ruskin announced that no person who is not a great sculptor and painter can be an architect, for if he is not a sculptor and painter he can only be a builder, and nothing better than a frame-maker on a large scale. Since there are only two fine arts possible to the human race, sculpture and painting, architecture is only the association of these in noble masses, or the placing of them in fit places; all architecture other than this is in fact mere building. While Oswald Spengler proclaimed that architecture is simply the highest form of pure ornament. The idea is that the regeneration of architecture was to be achieved through a closer contact with the allied arts. However, there had only been two kinds of sculpture, namely naturalistic sculpture, consisting usually of representations of the human body and regarded as a branch of the Fine Arts, and non-representational sculpture consisting of objects of daily use, and regarded as a branch of the Applied Arts. The problem was thus whether it was possible to justify an art which was both non-representational and useless. Hence, art was said to have nothing intrinsically related with functional criteria, so that the emotion transmitted by an artist could be expressed in any sort of form. It will be seen that not only did the new theory of abstract art lead to a wider interpretation of pure form. This inevitably suggested that the Vitruvian qualities of usefulness and stability were artistically of little importance as compared with the abstract aesthetic values of a building.

It was this very non-representational quality possessed by architecture which induced many of the artists to draw their inspiration for painting and sculpture from buildings, whereby their work often has a parasitic tectonic quality. Boccioni asserted that the basis of Futurist sculpture was tectonic, and there was a whole group of statues entitled constructions, produced by artists who called themselves constructivists. Thus architecture was not structural form modified aesthetically by sculpture, but that it was structural form constituted aesthetically by sculpture; an idea exemplified in Le Corbusier's chapel at Ronchamp (Paris) and which assumed a peculiarly twentieth century aspect by virtue of the fact that the materials used for many of these sculptural experiments were not stone or marble, but sheet metals, glass, wire, and other materials which, though by no means invented in the present century, were becoming increasingly associated by the more enterprising architects with the new machine age. Thus architects designed buildings by manipulating abstract shapes without reference to building functions, but with a view to achieving ornamental appeal in terms of significant form. But this three-dimensional design was created which had the advantage of not requiring additional ornament, since it constituted a total ornament in itself.

## Form and Function

Modern architecture concerns the relationship of form to function, but the theory that form follows function was hotly contested by those who believed that function follows form. This dilemma was specifically pointed out by Herbert Spencer. However, since no body has ever denied the obvious fact that form and function are in some way related; it is worth considering how their relationship does fit within a theory of architectural design. This is because the relationship between form and function is considered as necessary to beauty. From a biological

analogy, it is considered as necessary to life, and to the admirable relationship between form and function in the natural landscapes and human biology. The French Rationalists were more interested in the idea that form follows structure. Sullivan made biological analogies the foundation of a total architectural creed, since his main interest was in composition, which is the chief characteristic of organism which are living, since decomposition is the chief characteristic of organisms which are dead.

For architects, form and function meant a living architecture in which every composition, every element and every detail is deliberately shaped for the job it has to perform, and not a poetic expression, “Form follows Function”, but the study of animals or plants can do little to help us evolve forms appropriate to conditions today. Change has occurred in the philosophy of architecture which provides a termination to a study of the biological analogy. According to Geoffrey Scott, the great harm done by the biological analogy was that it substituted the criteria of evolution for the criteria of aesthetic judgment, whereby architectural historians were no longer concerned with whether a building was good or bad, but simply how it was to be classified chronologically. Architects are subjecting contemporary architecture to systematic criticism in order to determine how improvement can be best brought about. This of course is the very opposite of natural selection because they can no longer afford to regard every new contemporary building as automatically an advance on the rest. We are becoming much more aware that the environment does not only comprise natural scenery, but also the accumulated legacy of the buildings in our cities, and that any such buildings bordering a city site must be beaux arts, that produce a striking contrast with all the buildings nearby, so that modern architecture has no longer an excuse for ignoring its neighbors. On the other hand, with the general acceptance of Functionalism, there is no need to perpetuate the early revolutionaries’ aggression for the beaux-arts styles. Such buildings, when juxtaposed against our own, bear gratifying testimony to the victory of the fittest. In architecture, however, it is not necessarily only the fittest which survive.

## Conclusion

The plan of a building is not something resulting from its function but is designed to express its function by the association of ideas, since a building is only beautiful when it satisfies a need. As Durand said, the primary purpose of architecture has never been to please, nor has architectonic decoration been its object. Public and private usefulness, and the happiness and preservation of mankind, are the aims of architecture. He considered that originality should derive from the unique functional quality which every building possessed. Thus one should not strive to make a building pleasing, since if one concerns oneself solely with the fulfilment of practical requirement, it is impossible that it should not be pleasing. The doctrine that architecture is essentially the combination of abstract sculpture and engineering has been discarded and is replaced by a kind labelled variously Constructivism, Elementarism, or Suprematism; a type more applicable to architectural problems than De Stijl which it had the virtue of conceiving sculpture as constructed rather than as modelled. It produced ingenious assemblages of metal and glass. Pioneers of the Modern Movement considered that their

principal victory lay in the overthrow of the 19<sup>th</sup> century concept of styles. Le Corbusier wrote that styles are a lie and he never had a regard for function.